Ontario Crop Report - Seasonal Summary

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by
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For emerging issues and to provide comments on this report, contact the CropLine at 1-888-449-0937. Technical information can be obtained at the OMAF website http://www.gov.on.ca/OMAF/english/crops/field/news/index.html.

This is a brief summary of the 2002 cropping season, with emerging issues identified for consideration in the 2003 growing season. During the next year attend meetings, ask questions, and participate in projects to find answers to these and other issues.

Weather

The wet fall of 2001 gave way to a mild winter with below normal snowfall. Spring 2002 arrived early with warm southerly winds, allowing an early start to fieldwork. The warm, dry spring weather abruptly changed in early May to cool and wet conditions that continued into the third week of May. Western Ontario received 25 – 50% above normal precipitation in May, while eastern Ontario received up to 100% more rain than normal. Eastern Ontario remained wetter and the west drier than normal in June. Rains tended to come early in June but later in July. Rainfall received the last 10 days of July was spotty, with some areas receiving up to 225 mm (9 in.) during this period.

The remainder of the growing season could be summed up as dry and hot with many areas receiving 30 – 50% of normal rainfall. August rains did not materialize resulting in critically low soil moisture levels in many areas. Southwestern Ontario rainfall was especially spotty. There were several periods with 5 to 7 consecutive days over

30°C (over 40 days in total). This includes 5 days straight in September - very abnormal. These periods of extreme heat had a significant impact on crops, particularly in the areas that were moisture deficient.

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Winter Wheat

The small crop (540,000 acres) planted in 2001 went into the winter in below average condition, with only the early-planted wheat in excellent shape. Late planted wheat on heavy clay survived only over the tile runs. Spring conditions were favourable, allowing the crop to overcome the poor start.

The final tally was an excellent winter wheat crop, the fourth consecutive year with a provincial average yield in the mid 70's (bu/ac). Quality was good, although protein levels were quite variable, on average almost 1% below last year's levels. A significant portion of the hard winter wheat crop did not achieve protein premiums. With the positive outlook for wheat prices, and an excellent fall, record wheat acreage has been planted. 1 million acres, Plus!

Spring Cereals

Acreage increased significantly in all spring cereal crops, with the largest increase in the spring wheat crop. Extreme heat and moisture stress during the grain fill process reduced spring cereal yields to barely average. The barley crop was impacted the most by these hot, dry conditions, with spring wheat and oats

fairing better. Milling quality of the spring wheat crop is below normal, due to extremely high temperatures affecting the protein quality of the crop.

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Challenges for 2003

Weed Control

Dandelion and winter annual weed control: Glyphosate burndown ahead of planting winter wheat is the preferred option, but often not accomplished. Initial research studies show significant yield reductions can result from crop injury with dicamba based herbicides. Weed control options need review, with findings relayed to producers.

Frost Seeding Spring Cereals

Seeding date is critical to high yields with spring cereals. Frost seeding is a technique that holds promise to advance seeding dates. Further work is required to determine if this is a viable alternative for spring cereal growers

Stripe Rust

Stripe rust is a new, potentially devastating disease of winter wheat in Ontario. A field survey and research project to establish threshold for control is required.

Fusarium Head Blight

Fusarium was another "near miss" crisis this year, with prediction maps showing areas of high toxin potential. In most cases this did not occur, due to subsequent weather patterns. Fusarium research and continued development of the fusarium risk prediction model remain a priority.

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Manure Management: The benefits and risks of applying manure in the fall on winter wheat requires field-testing

Protein and Nitrogen

Nitrogen management can affect protein levels in soft and hard wheat. Further field-testing and research is required on timing and rates of Nitrogen application.

Dwarf bunt

Several fields of winter wheat had dwarf bunt even though seed was treated with Dividend, which provides control. Research is ongoing to evaluate why this is occurring.

Spring Wheat Quality

The quality of spring wheat as measured by the "falling number" can be influenced by weather conditions before harvest. What management practices can be employed to provide the best assurances for high quality?

Corn

Warm dry conditions in late April and early May provided a window for relatively early planting. Mid May was wetter and well below average in temperature. This weather caused early-planted corn to suffer from

delayed emergence and thin stands. Corn planted later in May under more favourable conditions emerged much quicker and final stands in the later planted corn were much higher.

Most of the province experienced very low rainfall from mid-June to late July. Crop saving rains came to most areas in the last ten days of July prior to corn pollination. These rains allowed for successful pollination and good ear set in most areas. Grain fill was hampered by a lack of rainfall and many corn fields became so dry that the plant cannibalized much of its stalk and leaf resources to fill the grain.

The area of the province south and west of London experienced the most severe shortage of rainfall and this continued throughout much of the of the growing season. Yields were significantly reduced in this area with field averages in the 60-100 bushel range common. The remainder of the province faired much better with a provincial yield average expected to be in the range of 108 bu/ac.

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Challenges for 2003

Nitrogen Management

Soil nitrate testing in early June generally indicated that the soil nitrate status was somewhat below average. This condition was probably a result of low temperatures in May and a resulting slower release of nitrogen from soil organic matter. Sidedress nitrogen rates in some cases were increased to compensate for the lower residual nitrogen soil levels.

OMAF field crop staff continue to work with growers and researchers to track soil nitrate levels throughout the growing season. Improving nitrogen management by reviewing crop response data, weather factors and soil nitrate levels will be a priority in 2003.

Manure Management

Efficiencies in manure management will need to be increased. This will mean more manure nutrient analysis, increased accuracy and uniformity of spreading and proper N crediting for the subsequent corn crop.

Pest Management

Corn flea beetle populations were exceptionally high this year and therefore increased our risk of Stewart's Wilt disease transmission. Both sweet and seed corn can be susceptible to this disease. Corn earworm was found in high numbers in several commercial corn fields this year. Earworm is typically not a pest of field corn. Future monitoring programs may be necessary to ensure proper management.

Seeding Rate and Hybrid Interaction

In selecting a hybrid, what seeding rate is optimum for that hybrid that will give both the highest yield potential and good stalk strength. How much risk is associated with higher densities when rainfall is below average?

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Soil Consolidation

How much money can Ontario farmers justify spending on deep tillage? Is soil compaction a significant limitation to corn yields? What soil types or conditions experience the biggest pay back from intensive tillage?

Soybeans

The majority of planting was delayed until late May and early June due to wet cold conditions. Some localized replanting was necessary but the majority of the province started out with good plant stands.

Dry, hot conditions the remainder of the growing season took its toll resulting in yellow leaves, flower and pod abortion, leaf puckering, as well as the "green bean syndrome".

At harvest, green soybeans were an issue, particularly in the southwest. The majority of fields had less than 15% green soybeans, but some fields in Elgin, Lambton, Chatham-Kent, Essex, and Middlesex had much larger percentages. The green beans resulted in discounts being applied and some challenges in marketing beans.

Although some regions actually harvested above average yields the majority of the province was not so fortunate. Yields ranged from 8 to 65 bu/ac depending mainly on the amount of rainfall received in late July - August. The provincial average reported to date is well below normal at approximately 33 bu/ac.

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Challenges for 2003

More No-Till Soybeans?

The adoption of no-till soybeans continues to increase in part due to growth in the use of Roundup Ready soybeans. Ontario tillage research from 1997 to 2000 found that no-till soybean yields equaled that of the fall moldboard plow in row widths 56 cm (22.5") or less and in twin rows. In some years, farmers have reported that their no-till soybeans yielded less than those grown conventionally on heavy soil types. Field trials are required to explore the possible benefits to some form of light tillage or in-row tillage at planting time on heavy textured soils.

Herbicide Resistance

Weed resistance to the ALS (Group 2) herbicides such as Pursuit, Classic, First Rate, Pinnacle, Broadstrike Dual is a concern. Resistant weed types confirmed include pigweed, ragweed, nightshade and green foxtail. If you experienced an unusual weed escape this year; talk to your product supplier to discuss the possibility of resistance.

The Risks and Benefits of Identify Preserved (IP) Soybeans

Opportunities for higher returns do exist with IP contracts but after another disappointing year for some IP soybeans, producers will continue to weigh the benefits and risks of growing for this market.

Advantages of Early Planted Soybeans?

Early planting may help plants establish deeper roots to better cope with summer's hot dry conditions. Early planting allows plants to take full advantage of the growing season. Although a few growers have had success when planting early, the yield benefit and associated risks, require further field-testing.

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Pest Management

Soybean aphids arrived late this year and did not pose a threat. Bean leaf beetles were found in several fields in southwestern Ontario. Although usually not a yield limiting pest in Ontario, this beetle has been found to transmit Bean Pod Mottle Virus in the U.S. A survey conducted in Ontario this year has shown an increase in the incidence of this disease. Continue to monitor for these pests in field scouting programs.

Edible Beans

Strong pre-season prices combined with weakness in corn and soybean prices encouraged a large expansion in acreage of white beans and to a lesser degree, black beans and other bean classes. Overall, acreage of white beans doubled the previous year's mark to over 100,000 acres. The majority of the crop was planted into excellent soil conditions with planting 75% complete by mid June. High populations of leafhoppers were present soon after beans emerged and continued to flourish through July.

A number of isolated thunderstorms the last 10 days of July provided ideal conditions for white mould to develop. Ronilan received an emergency use permit for aerial application. Forecasts of more rain gave way to a return to a hot and dry August. Following the thunderstorms, ozone damage (i.e. air pollution) was soon evident in a number of bean types (notably blacks). Dry conditions combined with high levels of bacterial blight accelerated maturity. Pre-harvest desiccant programs generally acted quickly and effectively. Colour, size and quality were good for all market classes. Low seed moisture content at harvest created mechanical damage and handling concerns. Yields ranged from 10 cwt./ac on the low end to over 30 cwt./ac on the high end.

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Challenges for 2003

Weed Management

The sensitivity of various bean types to different herbicides requires on-going research and extension information.

Pest Management

Leafhoppers arrived early and persisted, requiring repetitive control measures. Strategies for control vary depending on thresholds, timing of spray application and rate. Anthracnose was evident in a few fields in 2002. Practices to keep anthracnose in check included use of resistant varieties, pedigreed seed, and DCT seed treatment.

Root rot control is the most important and challenging disease to manage in dry beans. Aside from crop rotation, other options for control are being explored and include experimental seed treatments and nitrogen application.

Expanding Opportunities

Ontario has lost acreage of white beans, over the last number of years, to other lower cost producing areas, but has enjoyed growth in several coloured bean types. Ontario has the infrastructure, reputation and knows how to be a source for high value beans of various classes. Further efforts at developing opportunities need to be explored and supported.

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Canola

Strong prices encouraged an expansion in acres of spring canola to over 55,000, up some 50% over the previous year. Warm, dry weather in April allowed some early planting to occur. However, a wet, cool May delayed planting of a significant acreage of canola to the later part of May.

A heat wave that began the third week of June was extremely stressful, particularly on late plantings. The combination of prolonged high temperatures and little precipitation was more stress than the crop could handle resulting in considerable flower and pod abortion. Early estimates place the average around 1600 lbs./ac. Seed quality at harvest was excellent.

Acreage of winter canola seeded this fall is estimated to be 5,000 acres.

Challenges for 2003

Calibration of seeding equipment - The trend away from insecticide mixed with the seed to newer seed applied insecticides reduces the volume of product that flows through seeding equipment. Calibrating some seed drills is a challenge. A number of growers have successfully mixed fertilizer with the seed to increase volume. The most promising fertilizer to date for doing this is monammonium phosphate (MAP). Further work is required on safe rates of fertilizer with the seed, and which fertilizers or other products are most suitable.

Primed Canola seed

A limited number of trials in Ontario and western Canada have shown some advantages to using seed that has been 'pre-germed'. This primed seed may increase plant stand establishment and early vigour.

Nitrogen Management

The Ontario Canola Growers' are supporting research trials on nitrogen rates and nitrogen balance considering pre-plant and postharvest soil nitrogen levels.

Pest Management

Cabbage seedpod weevil is a new and potentially serious pest of spring and winter canola. A more extensive field survey of the pest along with establishing damage thresholds for control needs to be completed.

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Forage

Alfalfa winter survival was generally excellent. Warm weather in early April resulted in alfalfa breaking dormancy, but cool, wet weather beginning mid-April delayed forage growth considerably. Legume growth was much more delayed than the grasses. First cut yields were generally very good to excellent. Hay quality was frequently reduced due to a high proportion of grasses. Laboratory analysis of first cut indicates that fibre (NDF) levels were higher than normal, but fibre digestibility (dNDF) was often higher than expected.

Dry weather resulted in lower second and third cut yields, and pasture production. Second and third cut laboratory analysis was frequently higher in crude protein and lower in NDF than normal.

Continuously grazed pastures were typically overgrazed and out of feed in July. Cattle on these pastures required supplementation with hay. Rotationally grazed pastures were more productive.

New forage spring seedings were successful if done early, but later seeded fields were much less successful due to dry weather. Dry weather reduced summer seedings in many areas of the province.

Where low forage inventories existed, extra corn silage was made to compensate. In the severely dry areas, there was corn with poor grain development salvaged and harvested as corn silage. Corn silage quality was extremely variable, with some excellent quality, and some being much lower in digestible energy. Dry weather conditions made it more difficult to correctly time corn silage harvest. The risk of nitrates in forages was of some concern at harvest, particularly with green chop.

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Challenges for 2003

Strategies to Ensure Adequate Forage Inventories During Dry Weather

Dry weather affects pasture and forage yields and reduces forage inventories. Farmers must develop management strategies in the event of dry weather that include rotational grazing, the use of drought resistant forage species, and the use of annuals including corn silage.

Evaluation of Corn Silage Hybrids for Yield and Quality

Seed companies have developed corn hybrids for silage yield and digestible energy. A limited amount of information is available on the performance of silage hybrids. The East Central SCIA has conducted a 3-year project on dry matter yield and quality characteristics for silage. A research project by Agriculture Canada, DFO and OCA is evaluating these hybrids using analysis of starch and fibre digestibility.

Potato Leafhopper

Potato leafhopper levels were very high in some parts of the province, compounding the effects of the dry weather. New alfalfa seedings were particularly affected. Potato leafhopper damage in alfalfa is frequently underestimated. More scouting of alfalfa fields needs to be done and insecticide application where scouting thresholds are exceeded.

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